

REMARKS

Applicants respectfully request the Examiner to reconsider the present application in view of the foregoing amendments to the claims and the following remarks.

Status of the Claims

Claims 1-8 are currently pending in the present application. Claim 1 has been amended and claim 9 was previously withdrawn without prejudice to or disclaimer of the subject matter contained therein. No new matter has been added by way of the amendments. Support for the amendment to claim 1 can be found in the evaluation standard used for the adhesion test described in the Examples at page 29 of the specification. See the section titled “(2) Adhesion” at page 29. Support can also be found in the results presented in Table 1 at page 36 of the specification. Thus, no new matter has been added.

Based upon the above considerations, entry of the present Amendment is respectfully requested.

Issues Under 35 U.S.C. § 103

Claims 1-8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kanda, JP 2001-326434A (hereinafter referred to as Kanda) and Kishi, JP 2002-338664A (hereinafter referred to as Kishi). Applicants respectfully traverse this rejection. Reconsideration and withdrawal thereof are requested.

Applicants' Invention

The present invention is directed to a laminated body of a molded product which has a plating layer formed on its surface and which is obtained by bulk polymerization of a cyclic olefin monomer in the presence of an inorganic filler and in the presence of a ruthenium catalyst. The adhesion between the molded product and the plating layer is measured to be 0.4 kN/m or more. The Applicants have discovered that when a ruthenium catalyst is used in the presence of an inorganic filler in the bulk polymerization process, the following advantages are observed:

1. The resulting molded product exhibits improved adhesion to the plating layer;
2. The deterioration in catalytic activity is minimized; and
3. A higher heat-tolerance of the molded product results.

The laminated body recited in amended claim 1 of the present invention uses an inorganic filler from among fillers available in the market and exhibits an adhesion of 0.4 kN/m or more between the molded product and the plating layer. As a result, the laminated body of the present invention exhibits the advantageous effect of avoiding the peeling of the plating layer from the molded product which is caused by the deterioration in adhesion under high-temperature conditions (see page 2, lines 14-23 of the specification).

Kanda et al.

Kanda is directed to a method for producing insulating substrates for printed circuit boards by subjecting a stock solution containing a norbornene monomer and a metathesis polymerization catalyst (such as a ruthenium catalyst) to bulk polymerization. Kanda does not teach the use of an inorganic filler as described in Applicants' claims.

Kishi et al.

Kishi is directed to a method for producing a norbornene resin molding by subjecting a norbornene monomer to bulk polymerization in the presence of a filler and a metathesis catalyst. Kishi's use of a filler in the polymerization process is cited to correct this same deficiency in Kanda.

The rejection states that it would have been obvious to one skilled in the art to carry out the norbornene monomer metathesis polymerizations with the ruthenium catalyst of Kanda in the presence of the inorganic fillers of Kishi (page 6, lines 7-10 of the outstanding Office Action). The rejection further states that the act of improving the contraction properties of the molded product obtained by adding the filler as suggested in Kishi would also be likely to improve the adhesion properties of the resin by preventing the resin from withdrawing from the surface during the cooling cycle (page 6, lines 16-21 of the Office Action).

However, as Applicants argued in the Response filed January 8, 2009, Kishi describes both organic and inorganic fillers for use in the polymerization process for producing norbornene (paragraph [0023]) and does not specify which filler is preferable since Kishi treats the organic filler in the same way as the inorganic filler. Nor does Kishi recognize or appreciate the advantages offered from the use of an inorganic filler, such as improved adhesion between a molded product and a plating layer. This advantage is not recognized by Kishi since Kishi is not concerned with the adhesion of a plating layer to a molded product. The arbitrary selection of metathesis catalysts and fillers to be used in a polymerization reaction can lead to very undesirable end products or no product at all. Therefore, the failure of Kishi to recognize this

limitation would force the skilled artisan to randomly select from among the dozens of organic and inorganic fillers disclosed in Kishi, one filler to be used in the polymerization reaction of Kanda.

Moreover, by selecting and using an appropriate inorganic filler from the general fillers known in the art, the present invention exhibits improved adhesion between the molded product and the plating layer, thereby obtaining the distinguished value of 0.4 kN/m, as presently claimed. This advantageous and unexpected effect is thought to be the result of the presence of the inorganic filler located at the molded product surface which is dissolved in, or decomposed with, a chemical etching agent used in forming the plating layer which thereby serves to roughen the surface of the molded product. As a result, the improved and unique properties as observed by Applicants can be obtained (page 6, line 11 to page 7, line 1 of the specification). These results are neither suggested nor expected from the description of the general effects observed in Kishi (either alone or in combination with Kanda) when adding the filler.

Applicants will now address the relationship between adhesion and contraction, as discussed by the Examiner. The improved contraction properties of the molded product obtained by adding the filler as pointed out by the Examiner are one of the general effects resulting from the use of fillers. This particular feature is observed when blending a filler having a small linear expansion coefficient to a molded product made of a resin (page 6, lines 19-21 of the specification). Therefore, any contribution to the adhesion properties is indirect, variable and not easily determined by one skilled in the art. In other words, the skilled artisan would not expect to observe or obtain the improved adhesion properties of the present invention based on the general effect of the filler to improve the contraction properties of the molded product.

Accordingly, there is no direct relationship between the effect of improving the adhesion disclosed in the present invention and the effect of improving the contraction properties of the molded product discussed in Kishi. Moreover, based on the disclosure of Kanda and Kishi, one skilled in the art would not be motivated to select the inorganic filler to improve the adhesion between the molded product and the plating layer, and then additionally require that the adhesion between the molded product and the plating layer is 0.4 kN/m or more.

In response to the Examiner's comments that Applicants' previous arguments regarding adhesion between a molded product and plating layer were moot since the claimed invention did not recite this feature, Applicants have now amended the claims to include this limitation as suggested.

Accordingly, in the absence of any guidance by either Kanda or Kishi as to what type of filler would be desirable to use with the catalyst of Kanda in order to achieve the unexpectedly advantageous results obtained by Applicants, and in the absence of a teaching or suggestion that the adhesion between the molded product and plating layer fall within the claimed range of 0.4 kN/m or more, a *prima facie* case of obviousness has not been established. Therefore, Applicants respectfully request that the rejection over these references be withdrawn.

CONCLUSION

In view of the above amendment, Applicants believe the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Marc S. Weiner Reg. No. 32,181, at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

By 

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